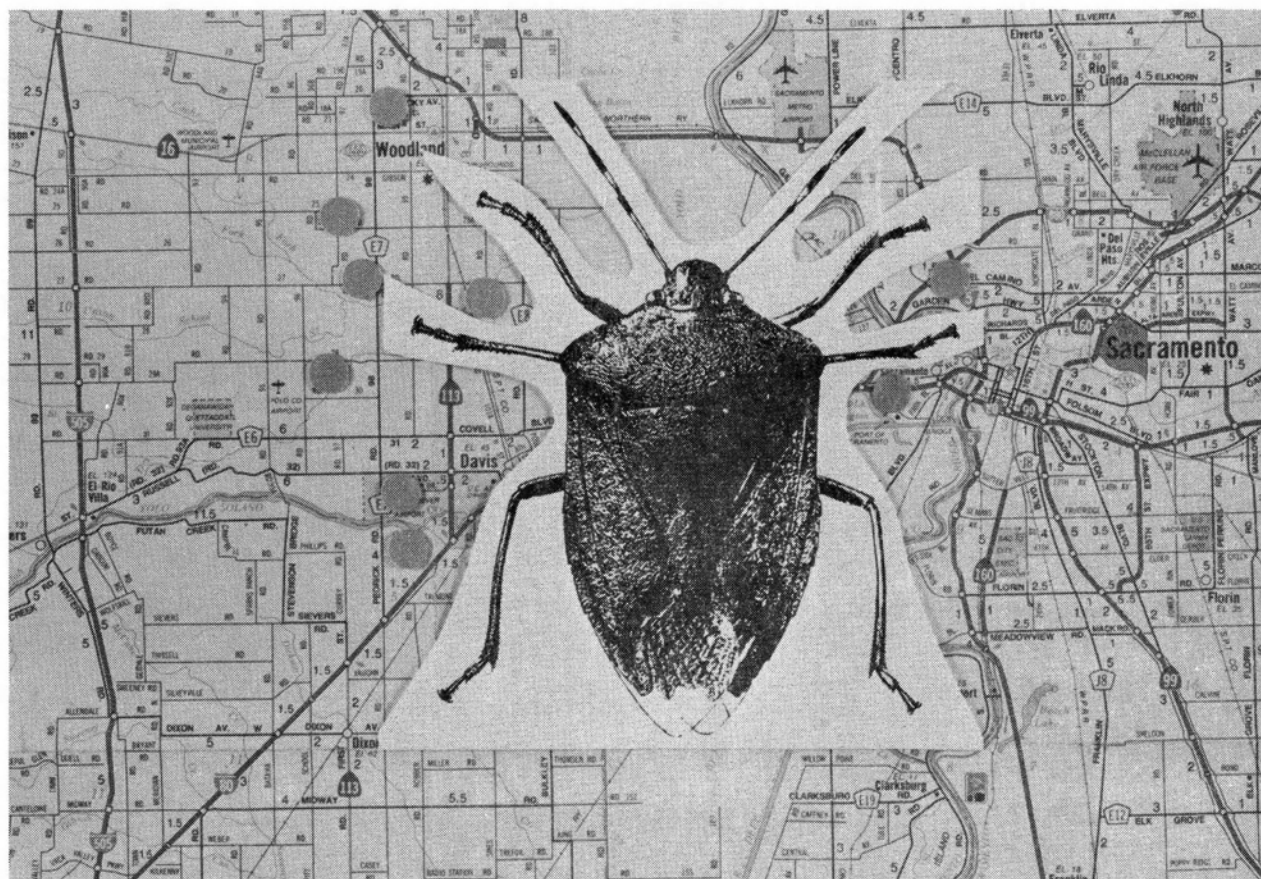




# CALIFORNIA PLANT PEST and DISEASE REPORT

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California Department of Food and Agriculture 1220 N Street Sacramento California 95814



Adult of the southern green stink bug, Nezara viridula, and map showing location of finds in California. Large grey dots indicate collection sites.

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**GLYCEROL FILTRATION SEED ASSAY**

J. McCarty, T. Matsumoto, T. Bell, L. Datnoff and M. Prescott

The glycerol filtration technique is a new laboratory technique which has been developed by our laboratory. This sensitive and accurate procedure can be used for detecting trace amounts of smut fungi in wheat samples. This technique was developed and tested at the Karnal Bunt of Wheat Research Project in Mexico during the 1986 season. There are several distinct advantages of this new technique over the old centrifuge seed wash such as being faster, easier and less costly in time and equipment.

The following is a step by step description of the bubble filtration technique keyed to the illustrations.

1. Weighing sample (fig. A).
  - a) Remove about 50 grams seed near bottom of sample bag.
  - b) Weigh 25 grams of this seed on a direct reading balance in individual weigh boats.
2. Column preparation (fig. B).
  - a) Add the 25 grams seed to chromatography column.
  - b) Add approximately 50 ml of 1:1 glycerol-water solution.
3. Bubble agitation (fig. C).
  - a) Connect stopcock bottom to tubing supplied with air from pressure pump.
  - b) Open stopcock slowly to regulate bubbling intensity.
  - c) Agitate with bubbling for 10 minutes.
4. Rinse column sides (fig. D).
  - a) After bubbling is stopped, rinse column sides with distilled water from a squirt bottle.
5. Prepare screen filter (fig. E).
  - a) Obtain a 1-1/2" X 1-1/2" square of nylon 20 micron mesh screen.
  - b) Center mesh over filter holder and secure with plastic cap.
  - c) Connect bottom of filter holder to vacuum line.
6. Vacuum filtration (fig. F).
  - a) Turn on vacuum pump, connected to the filter holder via a vacuum trap of two erlenmeyer flasks.

- b) Position filter underneath glass column and open stopcock. Allow solution to filter through mesh screen until column empties.

7. Column rinse (fig. D).

- a) Rinse column walls again with distilled water from a squirt bottle and filter the rinsate.

8. Slide preparation of filter screen.

- a) Remove nylon screen from filter holder and with scissors cut around filter residue area (fig. G).
- b) Place filter circle (residue side up) on clean glass slide, and add a couple drops of mounting medium (fig. H).
- c) Place a cover slip over mesh screen and heat briefly over alcohol flame to "fix" sample (fig. I).
- d) Ring edge of cover slip with sealing compound (fig. J). Allow compound to dry.

9. View slide with microscope (fig. K).

- a) Use low power for scanning, high power for positive identifications.
- b) Karnal bunt teliospores appear as black spheres, a mean dia of 38.5 microns, extreme diameters of 22-46 microns, with a spiny or truncate exospores surrounded by a sheath.

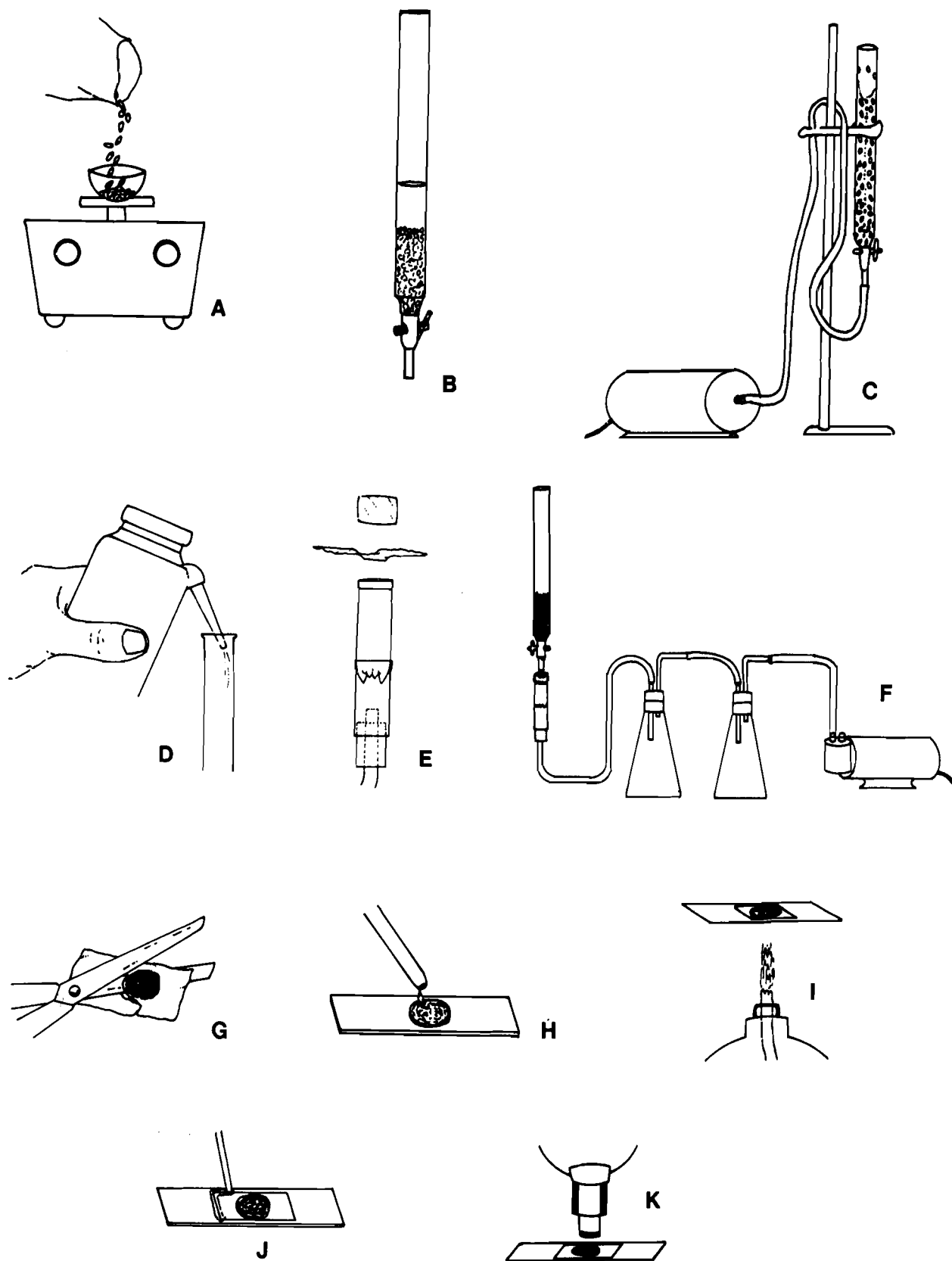
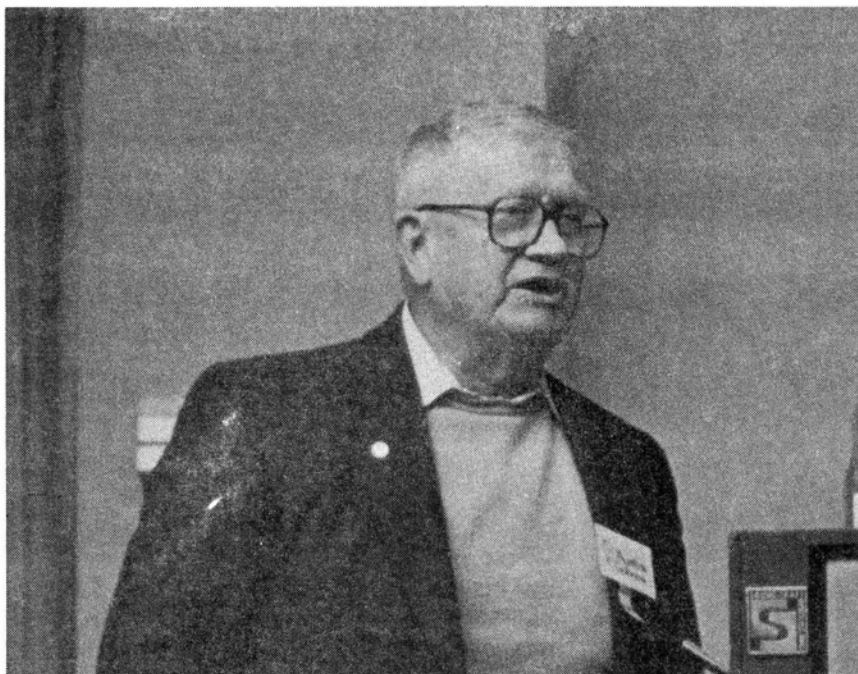


Figure 1. Glycerol Filtration Seed Assay  
(Illustrations by D. Showers)

### SIXTH CALIFORNIA PLANT DISEASE CONFERENCE



Dr. Austin Goheen will retire after 30 years of service to the California Grape Industry.

The Sixth California Plant Disease Conference was held in Santa Rosa, California on November 20 and 21, 1986. A total of 170 registrants participated in the sessions which emphasized Grape Diseases and Problems in California. Presentations were made by experts from the University and followed by comments from a panel member with applied experience. This unique agenda led to lively and provocative discussions between speakers, panel members and the audience. The informal discussions provided a forum to air differences of opinion and contributed greatly to the success of the meeting.

Special recognition was given to Dr. Austin Goheen who retired from the USDA-ARS last spring after 30 years of service to the California Grape Industry. Dr. Goheen was responsible for research on virus diseases of grape and Pierce's disease which was at one time believed to be incited by a virus. While Dr. Goheen intends to pursue an active retirement, he will also be maintaining an office on a part time basis in the Department of Plant Pathology at the University of California at Davis. The Plant Pathology staff at CDFA would like to wish Dr. Goheen a long and enjoyable retirement. We would also like to thank him for his help in disease diagnosis, providing visual aids and antiserum for work on Pierce's disease.

The Conference Chairman, Dan Opgenorth, would like to thank the following people who participated and helped to make the Plant Disease Conference a success.

Speakers: Dr. Douglas Gubler, Dr. William Wildman, Dr. Judith Eash, Dr. Alex Purcell, Dr. Michael McKenry, Dr. Austin Goheen and Dr. Milton Schroth.

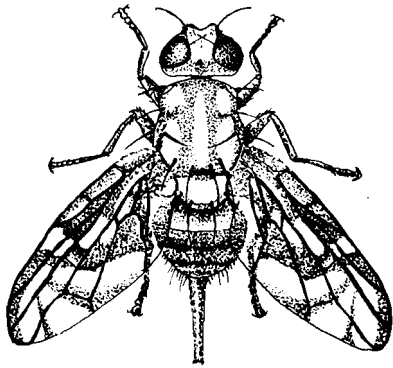
Panel Members: Mr. Paul Vossen, Mr. James Frisinger, Dr. John Sorensen, Mr. Keith Bowers, Dr. John Radewald, Mr. Andy Walker and Dr. Arthur McCain.

Staff: Tessie Humilde, Jeanenne White, Raymond Pietersen, Jackson McCarty, and Ellie Pond.

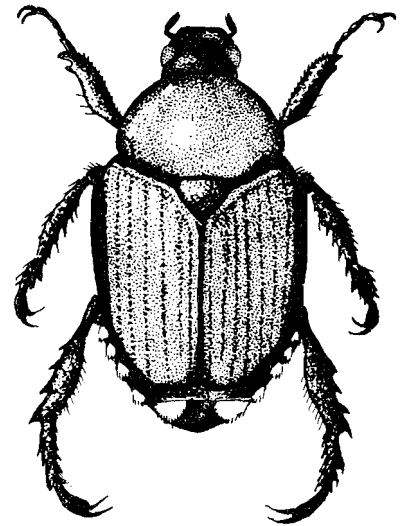
Commissioners: Mr. Edward Urban of Sonoma County and Mr. Stephen Bardessono of Napa County.

Hotel: Erica Ercolano and the entire Sheraton Round Barn Staff.

Next year, the Seventh California Plant Disease Conference will be held August 17 to 21, 1987 in the San Luis Obispo area. Our topic will be Detection and Methodology of Seed Borne Diseases of Quarantine Significance. A workshop with international speakers will be held concurrently with the conference. Make plans now to attend in August of 1987 and watch for future announcements in the C.P.P.D.R.



## Entomology Highlights



### FRUIT FLIES AGAIN IN THE NEWS

Many collections of serious fruit flies have been made during 1986, and particularly during the period of August - October.

**MEDITERRANEAN FRUIT FLY, *Ceratitus capitata* -(A)-** A single adult of this dreaded pest was collected in San Diego in August. For more details see the following report by John Pozzi:

"A male Mediterranean fruit fly (Medfly) was trapped on August 25, 1986, in Coronado, San Diego County. The Medfly was found in a Jackson/trimedlure trap that had been placed in a calamondin [a small, spicy Philippine orange] tree along Loma Avenue. San Diego County Department of Agriculture Technician Steve Coyne is credited with finding the fly.

Jackson/trimedlure trap density in the area was five traps per square mile and is being increased to protocol levels for new Medfly trap finds.

California Department of Food and Agriculture Insect Biosystematist Eric Fisher made the determination and found that the specimen was very fresh with iridescent eye color."

Information Officer Gera Curry adds the following notes about Medfly:

"Medfly is potentially the most destructive of the fruit flies which threaten agriculture worldwide. It attacks over 260 fruits, vegetables, and nuts, including all types of citrus, peaches, plums, apricots, nectarines, cherries, pears, apples, figs, avocados, tomatoes, peppers, etc.



The 1980-82 California Medfly infestation cost \$100 million to eradicate. It has been estimated that the permanent presence of this pest in California would result in yearly losses of over \$205 million in crop damages and additional pesticide use."

**MELON FLY, Dacus cucurbitae** -(A)- A second melon fly has been found this year. The first was collected in January at Los Angeles (See the January-April issue of C.P.P.D.R. 5(1-2):199). The latest find is summarized in the following report by John Pozzi.

"A female melon fly was trapped on September 16, 1986, in Hollywood, Los Angeles County. The discovery was made by Los Angeles County trapper Dan McCann while he was servicing a McPhail trap that had been placed in a fig tree at a residence on Willoughby Avenue. The find location is approximately five miles northwest from a melon fly trap find earlier this year in Los Angeles (PD02-86).

McPhail and Jackson/Cue-lure trap densities in the area was five and two traps per square mile respectively. In response to the find Los Angeles County Department of Agriculture will be increasing Jackson/Cue-lure trap density in a surrounding 81 square mile area. The trap array will be 50-25-15-10-5 Jackson traps per square mile with 50 being deployed in the epicenter square mile. McPhail trap density will be increased to a minimum of 25 traps, as required by protocol, in the epicenter square mile around the melon fly find location.

CDFA Insect Biosystematist Karen Corwin determined that the female melon fly was a very fresh specimen with no ovarian development and was unmated."

**MEXICAN FRUIT FLY, Anastrepha ludens** -(A)- The second and third wild Mexican fruit flies have been trapped so far this year. The first was collected in April at Los Angeles (see the January-April issue of C.P.P.D.R. 5(1-2):201). The following reports by John Pozzi and Dell Clark outline the recent finds during this period:

"On September 26, 1986, County Agricultural Technician Richard Dearie found a female Mexican fruit fly in a McPhail trap in San Ysidro, San Diego County. The trap had been placed in a sapote tree along Rail Court.

CDFA Insect Biosystematist Karen Corwin determined that the female fly had extensive ovarian development but was unmated.

This is the second Mexican fruit fly trapped in California in 1986. A female fly was trapped in Los Angeles County on April 7.

A male Mexican fruit fly was trapped on October 16, 1986, in the Otay Mesa area of San Diego. San Diego County Agricultural Technician Aide Bruce Gardner found the fly in a McPhail trap that had been placed in an orange tree along Otay Mesa Road. The find location is approximately 3.5 miles from a Mexican fruit fly trapped earlier on September 26 (PD68-86).

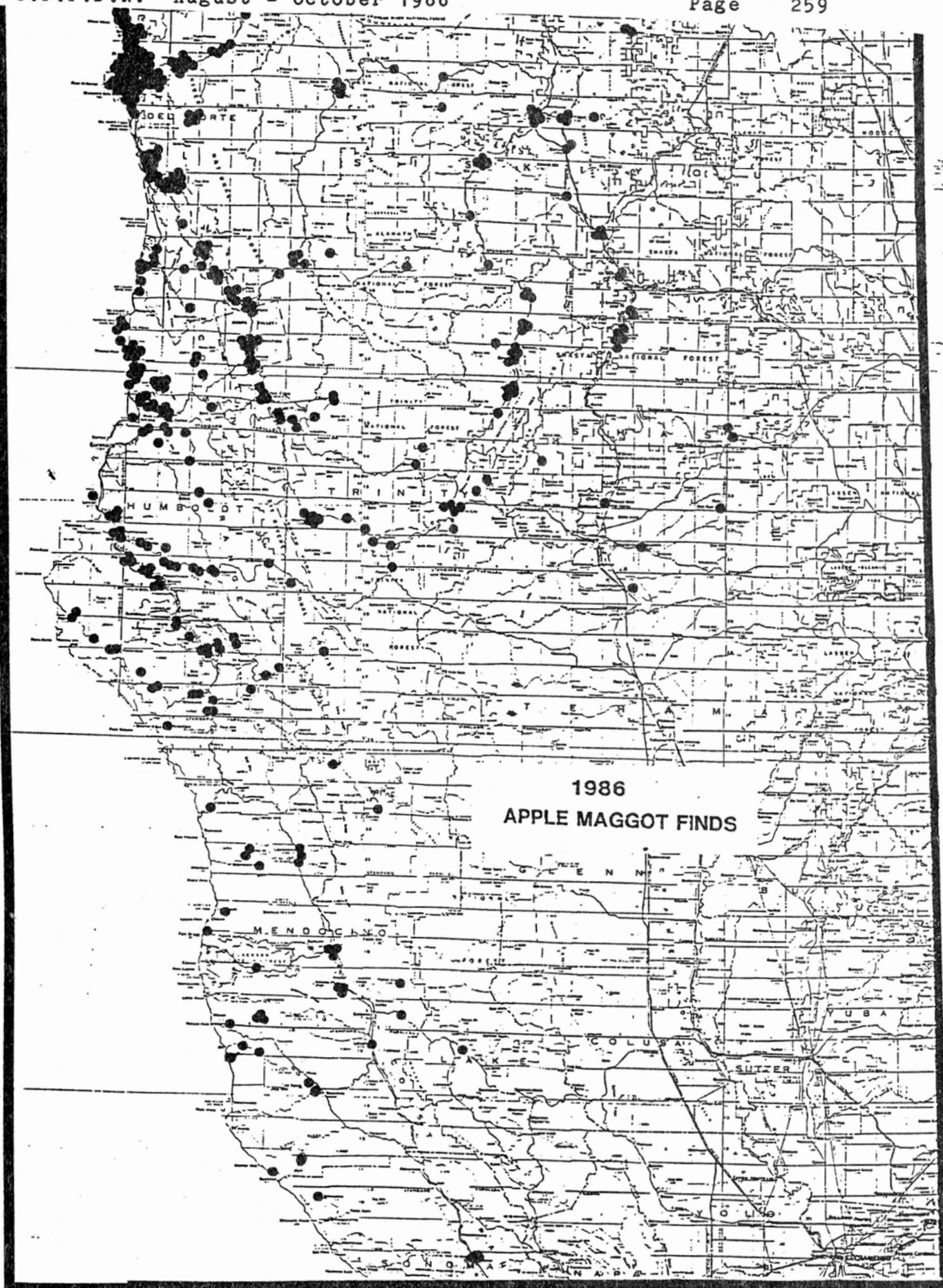
CDFA Insect Biosystematist Karen Corwin determined that the male Mexican fruit fly was sexually mature and had no indication of irradiation."

Further developments involving the Otay Mesa finds are occurring, but our printing date cut off requires us to save that information for the next issue.

**ORIENTAL FRUIT FLY, Dacus dorsalis** -(A)- As of September 22, 25 Oriental fruit flies have been trapped in the State. Twenty-one of these have been trapped since August 1 (for accounts of the previous four (4) finds, see C.P.P.D.R. 5(1-2):200 and 5(3-4):222. The following list enumerates the finds through October 31:

<u>City</u>	<u>County</u>	<u>Date</u>	<u>Collector</u>	<u>Number</u>
San Diego	SD	8/7	Breuninger	1
San Diego	SD	8/13	Moss	1
San Diego	SD	8/18	Brandon	1
San Diego	SD	8/26	Stowell	2
Manhattan Beach	LA	8/27	Cramb	1
Grand Terrace	SBDO	9/2	Tully	5
Grand Terrace	SBDO	9/3	Tully	1
Anaheim	OR	9/3	Litchfield	1
Westchester	LA	9/5	Shaw	2
Rosemead	LA	9/16	Thornton	1
Rosemead	LA	9/17	Lopez	1
Rosemead	LA	9/18	Lopez	1
West Covina	LA	9/18	Oritz	2
West Covina	LA	9/22	Lopez	1

**APPLE MAGGOT, Rhagoletis pomonella** -(A)- Large numbers of this apple pest have been trapped in the northwestern part of the State in conjunction with the eradication program currently underway in that area. See the map on the next page. The flies have also been collected in two new counties during this period. For more information see the section on "New County Records" in this issue. The following chart compiled by CDFA Agricultural Inspector Cindy Mills outlines the number of collections of apple maggot by county for this year.



Apple Maggot Determinations  
Cumulative Totals as of November 31, 1986

<u>County</u>	<u>Total</u>
Del Norte	2,478
Humboldt	1,226
Lake	2
Mendocino	80
Shasta	24
Siskiyou	186
Sonoma	2
Trinity	113

Grand Total 4,111

**WESTERN CHERRY FRUIT FLY, Rhagoletis indifferens -(A)-** Thirteen adults of this cherry pest were trapped in apple maggot eradication project traps in northern California from August through October. Collections were made in Del Norte, Humboldt and Shasta Counties by Carey, Barger, Haggard, Fenske, Karsten, Brazil and East. The fly was also found in two new counties this year. For more information see the section on "New County Records".

**BLACK CHERRY FRUIT FLY, Rhagoletis fausta -(A)-** One adult female fly was trapped during this period in an apple maggot trap on August 5 at Klamath, Del Norte County by Gary Fenske.

**GYPSY MOTH, Lymantria dispar -(A)-** Since the end of July, 19 gypsy moth adults had been trapped in the State. On August 8, R. Singh collected the 20th and last adult for the year. See the following report by Gary Agosta:

"A gypsy moth (GM) was trapped on August 8, 1986, in Hillsborough, San Mateo County. The male gypsy moth was detected in a GM trap deployed in a liquidambar tree on a Remillard Drive property. San Mateo County Biologist/Standards Specialist Raghubinder Singh is credited with making the detection.

The trap density was three GM traps per square mile and has been increased to protocol levels for new GM trap finds.

California Department of Food and Agriculture Insect Biosystematist Tom Eichlin made the determination."

Also, visual survey in Los Angeles County produced remains of immatures. See the following report by John Pozzi:

"On September 22, 1986, while conducting a visual survey in the vicinity of 1985 and 1986 gypsy moth traps finds on Skytop Road, Encino, Los Angeles County, CDFA Associate Economic Entomologist Donna Daniels and Insect Biosystematist Tom Eichlin discovered two female and two male gypsy moth (GM) pupal skins, three viable GM egg masses and four old egg masses. These finds were discovered on bark under ivy growing on an oak tree at a residence on Skytop Road."

**COTTON BOLL WEEVIL, Anthonomus grandis -(A)-** Consistent collections are being made in the desert valleys currently. We will try to summarize trap catches at the end of the trapping season.

**PINK BOLLWORM, Pectinophora gossypiella -(A)-** The San Joaquin Valley cotton harvest is well underway with an unusually low number of catches of native moths. The following report, as of October 24, summarizes the trap catches of wild flies this season:

"A total of 15 natives were trapped last week, 1 in Fresno County, 2 in Tulare County, and 12 in Kern County. County totals are as follows: Kern County...33, Tulare County...8, Kings County...3, Fresno County...3, and Madera County...1. The San Joaquin valley total of 48 natives, with two weeks of trapping left, is very low."

**WHITE GARDEN SNAIL, Theba pisana -(A)-** Fourteen samples of this "A" rated snail were submitted to the lab between late July and mid-August. Collectors were Murphy, Findlay, Krogh, Mendes, Blodsen, Ornelas and Castellanos. Collections were from San Diego, Santee, Winter Gardens, Oceanside, Lakeside and El Cajon.

**MARITIME SNAIL, Helicella maritima -(Q)-** Found during a survey for white garden snail, this pest was collected by Mendes and Yturralde at El Cajon, Santee and San Diego on August 31.

#### NEW STATE RECORDS

**SOUTHERN GREEN STINK BUG, Nezara viridula -(Q)-** The following report by Gary Agosta outlines the first find of this species in California:

"The southern green stink bug is found in Africa, Southern Europe, tropical and subtropical Asia, the West Indies, the Southeastern United States as far north as North Carolina and as far west as Texas; Central and South America, Australia, New Zealand, and several oceanic islands, including Hawaii. CDFA Insect Biosystematist Alan Hardy made the determination."

Delimitation surveys have since located the stink bug in other locations. The following report by George Buxton, dated October 10, summarizes subsequent finds.

"Southern green stink bug was found on September 30 in Sacramento County by Charles Mellor at Orchard Lane and I-80, and at Orchard Lane and West El Camino Avenue. The pentatomid was found on October 9 in Solano County by Sandy Ratliff and Larry Bezark at a student garden near the Environmental Horticulture Department on the south side of the U.C. Davis campus (across Putah Creek).

In Yolo County it was found on September 29 and 30 four miles northwest and three miles west of the original site near Woodland and near the U.C. Davis airport. On October 10 the stink bug was found at the Woodland Community Garden near County Road 98 and Beaver Street.

Twenty-one fields in San Joaquin County have been surveyed with negative results. Delimitation is continuing."

It has since been found at Southport, Yolo County on soybeans by Chris Diedrick. Other California hosts include tomatoes, nightshade, beans, pumpkins and miscellaneous weeds.

Discovery of Nezara in Hawaii in 1961, with subsequent spread to other islands in the group by 1963 prompted George Buxton, then Systematic Entomologist and Pentatomid specialist in the Sacramento Laboratory, to produce the following report on its status and identification:

"The introduction of this pentatomid on the Island of Oahu in the Hawaiian Islands in the fall of 1961, and its subsequent spread to the Islands of Kauai 1962, and Hawaii 1963, has prompted this Bureau to critically reevaluate the economic potential of this stink bug in California. It is also to be noted that eradication attempts in Hawaii have been unsuccessful, and although introduced parasites appear promising, the threat of infestation from the Hawaiian Islands will persist. It has been conservatively estimated that growers on the Island of Hawaii will have financial losses approaching \$250,000 for the current year when this stink bug becomes boardly established.

This pentatomid was discussed, with the green stink bug, Acrosternum hilare (Say), in an Insect Pest Informational Circular revised to March 20, 1957. The distributional information in this report is not entirely correct. A careful check of authenticated records of Nezara is being completed, and it now appears to be found no closer to California than Texas.

HOSTS: Include coffee, cotton, citrus, stone fruits, corn, sorghum, tomatoes, snap beans, mustard, cabbage, daikon, cauliflower, watercress, broccoli, eggplant, soybeans, spinach, mangoes, guavas, passion fruit, orchids, gardenia, jasmine, and hibiscus. This stink bug apparently prefers leguminous plants, from which it readily transfers after population buildup and/or host exhaustion. Acrosternum is essentially a pest of woody plants, whereas Nezara is associated mainly with the herbaceous group.

DESCRIPTION: The adult is a little more than 1/2 inch long and is usually bright green, although overwintering adults may be darker with a pinkish or purplish tinge. It exhibits the shield-form of a typical pentatomid and is very similar in size, color, and shape to Acrosternum hilare (Say), the green stink bug widely distributed in California.

'The eggs are barrel-shaped, 1.2 mm. long x 0.75 mm. diam., yellowish-white when laid and developing pink marks as the time of hatching approaches. There are five nymphal instars; the first stage is golden brown with mottlings that become darker; the next two stages are dark brown to black, with yellow margins to the thorax and two rows of white dots on each side of the upper surface of the abdomen, one marginal and one median; in the later stages, the head, thorax, wing pads and ground colour of the abdomen turn green, the edges of the abdomen become pinkish, and the legs and antennae pale brown.'

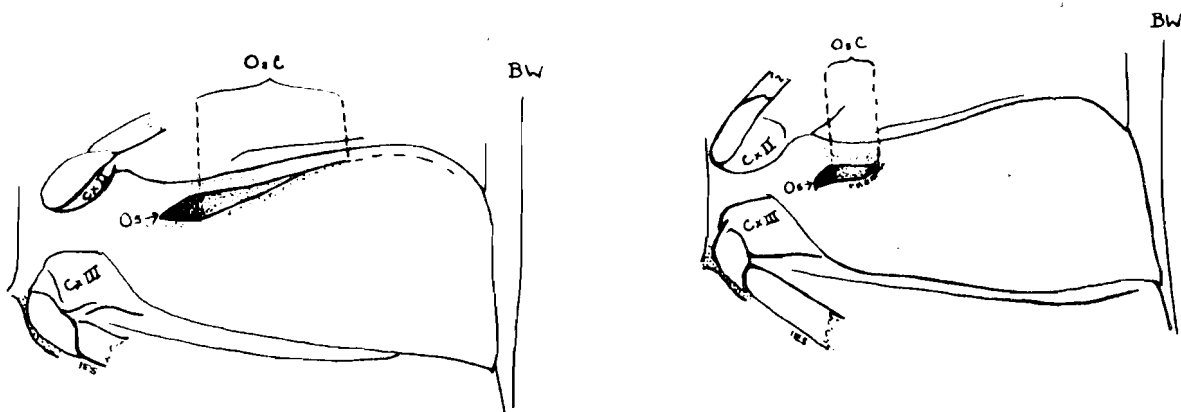
DISTRIBUTION: Throughout Africa, Southern Europe, most of tropical and subtropical Asia, the West Indies, southeastern U.S., as far north as North Carolina and as far west as Texas, restricted areas of Central and South America, the peripheral parts of Australia and New Zealand and several oceanic islands, including Hawaii. Records of distribution established by this insect indicate a preference for a coastal environment.

LIFE HISTORY: In the spring, overwintering females may lay up to 300 eggs. These eggs are usually laid in several batches, in the form of rafts averaging 50-60 eggs stuck together on the undersurface of the host plant leaf. Eggs hatch in from four to five days under good conditions, and four weeks are required from hatching to maturity. Three to four generations per year could be anticipated in California.

DAMAGE TO HOSTS: Evidence of Nezara and other stink bugs varies on different plants. Citrus fruits are punctured and their juices extracted, heavy infestation can cause weakening and premature drop. Young cotton bolls are subject to staining and fungus transmission causing internal boll rot. Legumes are credited with being a reservoir for this internal boll disease in Africa. On ornamental plants, including orchid species, Nezara sucks the juice from the peduncles (the stems supporting the flower buds) causing "bud crop" and a complete loss of flowers.

Puncture marks, catfacing, corking, chlorophyll loss, etc., should cause suspicion and further investigation.

References include: Ebeling - 1959, Subtropical Fruit Pests; Fenton - 1952, Field Crop Insects; Pearson - 1958, The Insect Pests of Cotton in Tropical Africa; Quayle - 1938, Insects of Citrus and Other Subtropical Fruits; State of Hawaii, A Report on the Southern Green Stink Bug in Hawaii.



Right ventral view of meta-sternum of Acrosternum.

Right ventral view of meta-sternum of Nezara.

Osteolar canal reaching more than 1/2 distance to body wall.

Osteolar canal reaching less than 1/3 distance to body wall.

BW = Body wall  
Cx = Coxa  
Os = Ostiole (scent gland opening)  
Osc = Ostiolar canal

The above generic character is limited specifically to the separation of Nezara from Acrosternum. Chlorochroa can be separated by the presence of a pale scutellar spot. All green stink bugs should be submitted.

**EUROPEAN HORNET, Vespula germanica -(C)-** Found for the first time in California at Berkeley, Alameda County. See the following report by George Buxton:

"Parker Gambino, Graduate Student Assistant, U.C. Berkeley, collected hornets from a residence located at 1540 Leroy Street in Berkeley. The collection was made on August 1, 1986. The hornets were identified by Dr. Robert Wagner of U.C. Riverside as Vespula germanica (European hornet). Dr. Wagner sent specimens to Dr.



Wasbauer of our Analysis and Identification Unit, and the same identification was made on September 3, 1986. This is a new state record which has been given a "C" rating.

This imported European hornet is established on the eastern seaboard, is common in Southern Idaho, and has been recorded as far west as Washington.

The new world form of this insect normally nests in the walls of dwellings and other structures. The entrance may be some distance from the nest itself. Colonies may become very populous with up to 25,000 individuals. These wasps defend their nests aggressively. In about 50% of cases, especially where dry wall has been used in construction, these wasps gain access to the interior of the dwelling, posing a threat to inhabitants.

This hornet is very similar in habit and appearance to several native species. It can be predaceous on insect larvae and can bite into ripe fruit, all in an effort to feed their larvae."

Parker indicated that several thousand hornets were present in the colony formed in an outdoor archway of the house.

### NEW COUNTY RECORDS

**APPLE MAGGOT, Rhagoletis pomonella -(A)-** John Pozzi outlines two new county records:

"Apple maggot (AM) has been trapped for the first time in Sonoma County. The fly was discovered on September 4, 1986, in a Pherocon AM trap that had been placed in an apple tree on Annapolis Road in the town of Annapolis. Sonoma County Agricultural Field Assistant Bill Koenig is responsible for finding the AM.

Lake County Biologist Chuck Morse found the first apple maggot to be trapped in that county. The discovery was made on September 11, 1986, in a AM Pherocon trap that had been placed in an apple tree at a residential property along Highway 20, 1 3/4 miles east of Upper Lake."

**WESTERN CHERRY FRUIT FLY, Rhagoletis indifferens -(A)-** New records of this fly include Butte and Fresno Counties. The Butte County find was in an apple maggot trap along Edgewood Lane in Paradise on August 14. Collection was by H. Eberly. The Fresno County find was on Auberry Road in Alder Springs on August 21. F. Maly made the collection from an apple maggot trap.

**NANTUCKET PINE TIP MOTH, Rhyacionia frustrana -(B)-** A significant range extension and new county record resulted from collections of this conifer pest from several nurseries in Sunol, Alameda County. Collections were made on October 7 by Warren Proctor. Previous collections are only from as far north as Fresno.

**GRAPE LEAF SKELETONIZER, Harrisiana brillians -(B)-** Collected for the first time in Inyo County at Bishop by Dean Smith July 28. The larvae were found skeletonizing leaves of Virginia creeper.

**MINT APHID, Eucarrazia elegans -(C)-** Collected on asparagus on the Shima Tract near Stockton, San Joaquin County. The July 14 collection by C. Stevens is a new county record.

**ASPARAGUS APHID, Brachycolus asparagi -(A)-** Four counties must be added to the long list of areas where this severe asparagus pest now occurs. The new record for Merced County is at Merced on August 29, collected by Bondoni and Peeler. The new record for San Bernardino County is at Redlands on August 27 by Randy Codiente. For Orange County the record is from Anaheim on September 16 by H. Lind. From Santa Barbara County the new record is from New Cuyama on September 30 by Jerry Davidson. Infested counties also include Riverside, Kern, Kings, Madera, Imperial, Tulare, Sacramento and Yolo.

**PEPPER TREE PSYLLID, Calophya schini -(C)-** Collected for the first time in Monterey County at Carmel on July 31 by Brad Oliver.

**AUSTRALIAN SOD FLY, Inopus rubiceps -(B)-** Found for the first time in Sonoma County at Santa Rosa on October 14 by Marilyn Vernon. The fly was found in the pupal stages in the lawn at a county facility.

**A MITE, Lorryia formosa -(C)-** Found for the first time in Ventura County at Oxnard by David Van Epp. The collection was from lemons on September 24. For more information on this mite, see the 1983 C.P.P.D.R. issue 2(6):171-2.

#### OTHER FINDS OF SIGNIFICANCE

**PEAR RUST MITE, Epitrimerus pyri -(C)-** This Eriophyid mite is usually found on pears but was found causing leaf spotting on the upper leaf surfaces of cherry trees at Lodi, San Joaquin County. The collection was made by D. Miller and S. Hudson on September 10.

**BRONZE LEAF BEETLE, Diachus auratus -(C)-** Found feeding in large numbers on the growing tips of caneberries in Watsonville, Santa Cruz County. The collection was made by John Bowman on July 28.

**CITRUS THRIPS**, Scirtothrips citri -(C)- Normally a citrus pest, this thrips was found in large populations (40 per leaf) in a mango orchard in Oasis, Riverside County. The collection was made on August 14.

**A LEAFMINER**, Liriomyza sp. near helianthi -(Q)- This unknown leafminer was found infesting a sunflower seed field by Harry Riley at Honcut, Butte County on August 8.

**LUBBER GRASSHOPPER**, Romalea microptera -(Q)- Living specimens of this large grasshopper were found for sale in a pet store in Monterey, Monterey County by F. Pabina and B. Oliver on August 12.

**COFFEE BEAN WEEVIL**, Araecerus fasciculatus -(Q)- Two adults of this stored products pest were brought into a nursery at Montecito, Santa Barbara County on August 19. Samples were submitted to the laboratory by Jerry Davidson.

**SCALE INSECTS** - A number of A and Q rated scale insects have been found in nurseries during this period. The scales were not on quarantine material but are assumed to be on plant hosts on which they were introduced into the state. Eradicative measures are under way. The following chart summarizes the finds:

Scientific Name	Host	County	Date	Collector
<i>Pulvinaria psidii</i>	Ficus	Los Angeles	9/30	Simon
<i>Ceroplastes floridensis</i>	Ficus	Los Angeles	9/30	Simon
<i>Parlatoria</i> sp. undesc.	Orchid	Sacramento	7/31	Zukin
<i>Pseudaulacaspis cockerelli</i>	Mango	San Diego	9/2	Kenyon
<i>Howardia biclavis</i>	Plumeria	San Diego	9/26	Ginsky
<i>Pseudococcus importatus</i>	Orchid	Los Angeles	9/23	Simon
<i>Pseudococcus elisae</i>	Aglaonema	San Mateo	10/3	Mastrangelo

#### FINDS OF SIGNIFICANCE IN OTHER STATES

**RED IMPORTED FIRE ANTS**, Solenopsis invicta -(A)- Three colonies of an imported fire ant were found in western New Mexico. The following report by Allen Clark summarizes the finds:

"The New Mexico Department of Agriculture (NMDA) has confirmed a single site where imported fire ant has been detected in Stine, Hidalgo County, approximately three miles from the Arizona border on Interstate 10. A truck fumigation operator works at the Stine off ramp to treat trucks rejected by the Arizona Department of Agriculture at San Simeon. NMDA had surveyed the area two weeks ago without finding imported fire ant (IFA).

The IFA site had three mounds which were treated October 23rd by NMDA. An initial survey of the Stine area was

negative. They plan a statewide survey this year. We will relay the results when we receive them.

Stine is a ghost town without any shippers of IFA regulated items. However, because the range of IFA is expanding, it is advisable to be alert for IFA from all areas of the southeastern and central United States. Although Red Imported Fire Ants cannot be identified in the field, the following characteristics can be used to at least narrow the field:

1. Red Imported Fire Ants are small, approximately 1/4-inch long. The large red or black ants common in Arizona are Harvester Ants.
2. They are reddish in color. Most of our native fire ants are dark.
3. The mounds are fairly good-sized, either dome-shaped or broad, and involving more than one entrance hole.
4. They are most likely to be in moist locations, such as gardens or near water.
5. They seem especially aggressive. Most ants will protect their nest if threatened, but Red Imported Fire Ants often swarm and attack without provocation.
6. Stings result in small, watery blisters in the skin. Most other ant stings will cause pain, redness and some swelling, but no blisters will form.

We in California also should be alert to the potential introduction of Red Imported Fire Ant. Suspect samples should be sent to Analysis and Identification, CDFa, Sacramento, in the usual manner."

The ant was also found infesting an abandoned nursery in Mesa, Arizona in September. The nursery had received a number of plant shipments from Florida, and it is assumed that the infestation came from there. Several colonies less than three years old were found at the site. Eradicative measures are underway.

**RUSSIAN WHEAT APHID, Diuraphis noxia -(Q)-** This newly introduced aphid has now been found in Wyoming near Archer Station in Laramie County. It is a serious grain pest introduced from Europe. For more information see C.P.P.D.R. 1986, 5(1-2):206-208.

**GYPSY MOTH, Lymantria dispar -(A)-** The USDA reports (August 12) that 97 GM males were captured in 13 traps in the city of Boulder (Boulder County); plus 52 GM males were captured in 11 traps in the city of Ft. Collins (Larimer County).

It is noted that approximately 200 traps were placed in each city. The Boulder infestation appears to be concentrated around one of last years catches (one site). There appear to be two separate infestation sites in Ft. Collins. The complete picture in Colorado will not be known until the end of August when all traps are collected. (Colorado uses some volunteer trappers statewide.)

### EXCLUSION AND DETECTION

**GYPSY MOTH, Lymantria dispar -(A)-** The following chart outlines the quarantine interceptions for the period August to October.

<u>County</u>	<u>Origin</u>	<u>Date</u>	<u>Stage</u>	<u>Collector</u>
SAC	NY	8/4	E	Zukin
V	VA	8/5	E	Cipriano
LA	MA	8/8	P	Gendreau
CC	NJ	8/11	E,P	Ziegler
SM	NY	8/11	E	Zibrak
SM	MA	8/11	E,P	Ziegler
SM	NY	8/13	E	Mastrangelo
SD	NY	8/15	P	Rys/Murphy
O	CT	8/20	E	McRoberts
O	NJ	8/21	L	Hill
CC	NJ	8/22	E	Alavi
SLO	MA	8/27	E,L,P	Frank
STCZ	NJ	8/27	L	Morton
SD	?	8/27	P	Kenyon
ALA	NJ	8/28	E,L,P	Stockel
ALA	NY	8/28	E,L,P,A	Jones
SAC	NY	9/4	E	Zukin
SAC	NY	9/5	E	Zukin
MAR	NJ	9/10	L,P	Schwartz
SAC	RI	9/11	L,P	Zukin
SD	NJ	9/12	A	Brown
CAL	IL	9/15	E,L,P	Kerstan
SD	MA	9/22	L,P	Redding
SAC	PA	9/29	L,P	Zukin
PL	MD	9/30	E	Henderson
ALA	NY	10/15	E	Jones
V	PA	10/15	E,L,P	Cozzola

**TENT CATERPILLARS, Malacosoma sp. -(Q)-** Collected three times in this period during gypsy moth detection. Origins were Rhode Island and Pennsylvania; collectors were Zukin and Lounsbury.

**JAPANESE BEETLE, Popilla japonica -(A)-** The following chart prepared by Gary Agosta summarizes the California finds for this year on incoming aircraft.

## "SUMMARY - 1986 JAPANESE BEETLE FINDS

County	Adults Trapped	Date Last Adult Trapped	Number Airport Interceptions	Date Last Airport Interception
Alameda	0	---	107	7-31-86
Los Angeles	1	7-8-86	14	7-27-86
San Bernardino	0	---	3,105	7-30-86
San Mateo	0	---	13	8-01-86
Santa Clara	<u>0</u>	---	<u>2</u>	7-17-86
	1		3,240	

**ORIENTAL BEETLE, Anomala orientalis -(Q)-** Collected twice during this period from aircraft cargo holds by Pieslak and Kennedy.

**A SCARAB BEETLE, Phyllophaga sp. -(Q)-** Collected six times from aircraft during this period by Pieslak, Nedelson, Drake, Sullivan, Weston, Cochran and Meyer.

The following insects and molluscs have been intercepted so many times during this period that it is not practical to account for all the collections and collectors.

Species	Common Name	Rating	Number of Interceptions
Pseudaulacaspis cockerelli	magnolia white scale	A	25
Pulvinaria psidii	green shield scale	A	5
Coccus viridis	green scale	Q	3
Pinnaspis strachani	lesser snow scale	A	6
Howardia biclavis	mining scale	A	9
Protopulvinaria pyriformis	pyriform scale	B	3
Aonidiella aurantii	red scale	B	6
Lepidosaphes beckii	purple scale	B	2
Aleurodicus dispersus	spiraling whitefly	Q	7
Pheidole megacephala	bigheaded ant	Q	6
Bradybaena similaris	a snail	B	9

The following A, B and Q pests have been intercepted in Quarantine from August thru October

Rating	Species	Common Name	Date	Origin	County	Host	Collector
A	Dacus dorsalis	Oriental fruit fly	9/2	HI	OR	guava	McRoberts
A	Anastrepha ludens	Mexican fruit fly	8/21	Mexico	ALA	wango	Pastalka
A	Anastrepha suspensa	Caribbean fruit fly	9/12	FL	OR	guava	Neblet/Bernard
A	Toxotrypana curvicauda	papaya fruit fly	10/8	Mexico	LA	papaya	Bell/Maxwell
A	Toxotrypana curvicauda	papaya fruit fly	10/24	Mexico	SD	papaya	Avery
A	Toxotrypana curvicauda	papaya fruit fly	10/23	Mexico	SD	papaya	Krogh
A	Toxotrypana curvicauda	papaya fruit fly	10/22	Mexico	SD	papaya	Sudduth
A	Anastrepha suspensa	Caribbean fruit fly	9/22	FL	SD	Ylang-Ylang	Ginsky
A	Trogoderma granarium	Khapra beetle	8/29	Orient	LA	rice	Moreo/Koller
A	Popillia japonica	Japanese beetle	7/31	RI	CC	soil	Ziegler
Q	Tricopterus campestris	a longhorn beetle	6/2	China, P.R.	TUL	grapevine	Haines
Q	Diabrotica longicornis	nor. corn rootworm	8/14	Iowa	SON	corn, fresh	Gadd
Q	Anomala orientalis	Oriental beetle	8/15	New York	SD	planter box	Rys/Murphy
Q	Adoretus sinicus	Chinese rose beetle	8/6	HI	LA	cut flowers	McClure
Q	Maladera castanea	Asiatic garden beetle	7/23	TENN	ALA	aircraft	Pieslak, Nedelson
Q	Apogonia sp.	a scarab beetle	9/2	?	LA	aircraft	Avera
Q	Dicentrus sp.	a scarab beetle	9/2	?	LA	aircraft	Avera
Q	Dryocoetes sp.	a bark beetle	10/13	Europe	ALA	wood	Brown
Q	Myocalandra sp.	a weevil	8/29	HI	LA	cocoanuts	Flowers
Q	Diacalandra sp.	a weevil	10/15	HI	SD	palm	Stotz
Q	Hilipinis sp.	a weevil	9/18	Guatemala	R	avocado	Brown
A	Cerculio sp.	a weevil	10/2	NC	LA	chestnut	Hynes
A	Ceroplastes rubens	red wax scale	10/14	HI	SD	Tupidanthus	Parker
A	Dialeurodes citri	cloudy wing whitefly	10/10	HI	SAC	Ficus	Zukin
Q	Pseudococcus lycopodii	club moss mealybug	9/22	HI	SAC	foliage, cut	Jensen
B	Pseudococcus elisae	mealybug	9/23	HI	RIV	zinger	Brown/Chandler
A	Lopholeucaspis cockerelli	Cockerell scale	10/2	HI	SJ	palm	Davelvy
Q	Crenidorsum sp.	a whitefly	10/7	HI	SAC	philodendron	Zukin
Q	Paraleyrodites perseae	plumeria whitefly	10/7	HI	SAC	philodendron	Zukin
Q	Aspidiotus excisus	aglaonema scale	10/7	Guatemala	SAC	Aglaonema	Zukin
A	Ceroplastes rubens	red wax scale	9/22	HI	CC	Maile lei	Musso
Q	Orchamoplatus mammaeferis	croton whitefly	9/22	HI	CC	Maile lei	Musso
Q	Rhizococcus americanus	soil mealybug	9/29	HI	LA	palm	Rawald
Q	Aleurothrixus floccosus	woolly whitefly	9/6	Spain	SF	citrus	Brown
A	Aspidiotus destructor	coconut scale	9/18	HI	SAC	palms	Bianchi
A	Aonidiella orientalis	Oriental scale	9/8	FL	B	coconut	Devaney
Q	Parlatoria zizyphi	black parlatoria	9/9	Indonesia	SF	citrus	Brown
Q	Pseudococcus lycopodii	club moss mealybug	9/5	HI	SAC	Lycopodium	Zukin
Q	Aonidiella orientalis	Oriental scale	9/10	FL	B	coconut	Dowd
Q	Aleurotrachelus sp.	a whitefly	9/4	HI	SM	palm	Buerer
Q	Ceroplastes floridensis	Florida wax scale	8/26	FL	MY	Schefflera	Bunch
Q	Palmicallitor palmarum	palm mealybug	9/8	HI	SD	palm	Ginsky
A	Aspidiotus destructor	coconut scale	9/12	HI	SJ	palm	Hudson
A	Ceroplastes rubens	red wax scale	10/8	FL	SAC	Dreffenbachia	Zukin
A	Ceroplastes rubens	red wax scale	9/24	HI	SD	Tupidanthus	Parker
B	Ceroplastes sinensis	Chinese wax scale	9/22	FL	SD	Jaboticaba	Ginsky
Q	Parlatoria citri	citrus parlatoria	9/9	Indonesia	SF	Karrir lime	Brown
Q	Florinia proboscidea	a florinia scale	9/9	Indonesia	SF	Kaffir lime	Brown

Rating	Species	Common Name	Date	Origin	County	Host	Collector
A	Clavaspis herculeana	herculeana scale	7/29	HI	STCL	Plumeria	Caplan
B	Comstockiella sabalis	palmetto scale	8/5	FL	PLA	palm	Henderson
B	Ferrisia virgata	striped mealybug	9/4	FL	SBO	Schefflera	Zinsmeyer
B	Pseudococcus elisae	elisa mealybug	8/5	HI	SAC	Aglaonema	Bianchi
B	Siphanta acuta	torpedo bug	8/5	HI	SAC	palm	Bianchi
B	Siphanta acuta	torpedo bug	8/27	HI	SAC	cut foliage	Jensen
Q	Llaveiella sp.	a margarodid scale	8/25	?	SD	Balbophyllum	Rys/Redding
A	Solenopsis invicta	red imported fire ant	8/5	FL	LA	Aglaonema	Calicchia
A	Solenopsis invicta	red imported fire ant	10/8	TX	SD	Saracina	Redding/Kennedy
Q	Anoplolepis longipes	long-legged ant	9/24	HI	LA	Tupidanthus	Kellan
Q	Anoplolepis longipes	long-legged ant	8/26	HI	SD	bamboo	Boch/Brown
Q	Camponotus abdominalis	Florida carpenter ant	9/22	FL	SD	Jaboticaba	Ginsky
Q	Paratrechina sp.	an ant	9/22	FL	SD	Jaboticaba	Ginsky
Q	Technomyrmex albipes	an ant	9/19	HI	SD	Anthurium	Redding
Q	Technomyrmex albipes	an ant	9/11	HI	OR	mangosteen	McRoberts/Goodreau
B	Paratrechina longicornis	crazy ant	9/3	HI	SD	orchids	Ginsky
Q	Paratrechina sp.	an ant	10/7	FL	SD	palm	Sims/Murphy
Q	Tapinoma sp.	an ant	8/28	New Guinea	SD	orchids	Ginsky
A	Ostrinia nubilalis	European corn borer	8/14	Iowa	SON	corn	Gadd
Q	Chrysodeixis chalcites	green garden looper	10/9	HI	SAC	Protea	Jensen
Q	Bucculatrix sp.	ribbed case maker	10/2	VA	SAC	furniture	Raschke/Zukin
Q	Recurvaria sp.	a gelechiid moth	9/18	Guatemala	R	avocado	Brown
Q	Spodoptera sp.	a cutworm	9/3	India	LA	Sacking	Koller
Q	Zachrysia sp.	a snail	8/20	FL	LA	Ficus	Hynes
Q	Veronicella sp.	a slug	8/27	HI	LA	Cilantro	McClure
Q	Periplaneta sp.	a cockroach	8/14	HI	SBO	flowers	Nash
Q	Nysius sp.	false chinch bug	9/12	HI	SD	flowers	Ginsky
Q	Zachrysia provisoria	a snail	9/3	FL	SD	Ficus	Avery
A	Achatina fulica	giant African snail	9/8	HI	LA	Paetla	McClure
Q	Vaginulus plebius	a slug	9/23	HI	SD	foliage	Kennedy
Q	Diploptera punctata	beetle roach	9/23	HI	R	ginger	Brown/Chandler



The following insects and mollusks are "A" or "Q" rates pests intercepted between August and October in quarantine which were not immediately identifiable to species because of life stage, condition or lack of comprehensive taxonomic studies of the groups.

Rating	Species	Common Name	Date	Origin	County	Host	Collector
Q	Mollusca	snails	9/23	HI	SD	foliage	Kennedy
Q	Mollusca	snails	8/25	New Guinea	SD	asst plants	Rhys/Redding
Q	Pseudococcidae	a mealybug	9/11	HI	LA	Schefflera	Hansen
Q	Pseudococcidae	a mealybug	8/29	New Guinea	SD	Spathoglottis	Sixtus
Q	Pseudococcidae	a mealybug	9/17	HI	SAC	Ti	Jensen
Q	Membracidae	a treehopper	8/14	Guatemala	R	avocado	Breyer
Q	Pentatomidae	stingbug eggs	8/19	FL	SF	Caladium	Rios
Q	Blattidae	a cockroach	8/25	New Guinea	SD	orchids	Redding/Rhys
Q	Noctuidae	a plusiine moth	9/3	India	LA	burlap	Koller
Q	Pyralidae	a pyraustine moth	10/8	HI	LA	basil	Flowers
Q	Lepidoptera	a microlepidoptera	9/9	Indonesia	SF	Kaffir lime	Brown
Q	Psychidae	a bagworm	9/4	NY	SAC	outdoor items	Zukin
Q	Arctiidae	a woollybear	7/31	TENN	ALA	aircraft	Pieslak/Nedelson
Q	Noctuidae	a plusiine moth	8/21	HI	SON	Dracaena	Kobayashi
Q	Tortricidae	a tortricid moth	8/26	HI	SD	Dracaena	Boch/Brown
Q	Geometridae	a looper	8/22	Taiwan	CC	packing	Alavi
Q	Tineidae	a tineid moth	8/26	HI	SD	Ti	Boch/Brown

### BORDER STATIONS

Kudos for this issue go out to the following border station personnel for a job well done.

GM Team Effort - On August 4, Winterhaven Plant Quarantine Inspector Patty Harris crawled under an RV trailer (from Brick, New Jersey) to check for egg masses which are occasionally found on vehicles from GM-infested areas back east. To her surprise, she found the underside completely covered with egg masses and pupae.

The complete cleaning of the vehicle required the combined efforts of Patty, PQI Jose Pena, and Station Supervisor Walt Address...working together for 2-1/2 hours...scraping and using the hot-water cleaner. When finished, they had filled a three-pound coffee can with eggs and pupae (which appeared) to be viable when found). The owners of the vehicle were very patient and understanding, as well as amazed that the prohibited insect material was even there. Meanwhile, PQI Ed Pinson did an excellent job of taking care of the other traffic. All in all, it was a great team effort. Well done!

Editorial Note: This particular accomplishment by the Winterhaven crew probably saved the citizens of California about \$100,000 (the average cost of eradicating an established GM infestation). Walt, and his Winterhaven crew, have "done us proud, again!"

"Tupperware Fruit Fly" - Patty Harris, inspecting a Texas auto, asked "What is in the bag?" "Tupperware," replied the owner, suspiciously. Opening the "too heavy" bag and looking inside of the plastic container, Patty found six mangoes. Later, when the fruit was cut, "little wigglies" were found which were confirmed to be live Mexican fruit fly larvae. Great interception!

Persistence Pays - Rene Barnett inspected a tent trailer entering from Nevada and Arizona, but further questioning uncovered the fact that they lived in Redmond (King County), Washington. Since this is a GM infested area, Rene did a full creeper check and found an egg mass (proved to be "C"-rated salt-marsh caterpillar). Great inspection!

A few minutes later, a Florida vehicle pulled in. Rene found a mango from Stuart (Martin County), Florida. Inside he discovered three live wigglies, which were confirmed to be Caribflies. Rene is our "Inspector of the Week". Well done.

**BORDER STATION INTERCEPTIONS**  
(August 1 through October 30, 1986)

SOUTHWESTERN CORN BORER	<i>Diatraea grandiosella</i>	1	A
SUGAR CANE BORER	<i>Diatraea saccharalis</i>	1	A
APPLE MAGGOT	<i>Rhagoletis pomonella</i>	260	A
GYPSY MOTH	<i>Lymantria dispar</i>	82	A
PECAN WEEVIL	<i>Curculio caryae</i>	26	A
HICKORY SHUCKWORM	<i>Cydia caryana</i>	54	A
WESTERN CHERRY FRUIT FLY	<i>Rhagoletis indifferens</i>	17	A
IMPORTED FIRE ANT	<i>Solenopsis invicta</i>	8	A
BOLL WEEVIL	<i>Anthonon grandii</i>	5	A
JAPANESE BEETLE	<i>Popillia japonica</i>	8	A
EUROPEAN CORN BORER	<i>Ostrinia nubilalis</i>	19	A
WALNUT HUSK MAGGOT	<i>Rhagoletis suavis</i>	5	A
BLACK IMPORTED FIRE ANT	<i>Solenopsis saevissima</i>	1	A
WHITE MARKED TUSSOCK MOTH	<i>Orgyia leucostigma</i>	2	A
COCONUT SCALE	<i>Aspidiotus destructor</i>	3	A
MEXICAN FRUIT FLY	<i>Anastrepha ludens</i>	10	A
LESSER SNOW SCALE	<i>Pinnaspis strachani</i>	1	A
PINK BOLLWORM	<i>Pectinophora gossypiella</i>	8	A
COLORADO POTATO BEETLE	<i>Leptinotarsa decemlineata</i>	1	A
SCRUFY SCALE	<i>Chionaspis furfura</i>	1	A
EASTERN TENT CATERPILLAR	<i>Malacosoma americanum</i>	13	Q
ORIENTAL SCALE	<i>Aonidiella orientalis</i>	1	Q
FLORIDA CARPENTER ANT	<i>Camponotus abdominalis</i>		
	<i>floridanus</i>	1	Q
SPOTTED CUCUMBER BEETLE	<i>Diabrotica undecimpunctata</i>		
	<i>howardi</i>	2	Q
BIGHEADED ANT	<i>Tapinoma melanocephalum</i>	1	Q
SQUARE NECKED GRAIN	<i>Carthatus quadricollis</i>	1	Q
BEETLE			
ARMORED SCALE	<i>Acutaspis reniformis</i>	1	Q
A SNAIL	<i>Cepaea nemoralis</i>	1	Q
EASTERN NOCTUID MOTH	<i>Spodoptera dolichas</i>	1	Q
ORIENTAL BEETLE	<i>Anomala orientalis</i>	1	Q
SNAIL	<i>Zachrysia provisoria</i>	1	Q
WEEVIL	<i>Conotrochelus sp.</i>	4	A
WEEVIL	<i>Curculio sp.</i>	7	A
FRUIT FLY	<i>Rhagoletis sp.</i>	1	A
FRUIT FLY	<i>Anastrepha sp.</i>	5	A
TENT CATERPILLAR	<i>Malacosoma sp.</i>	23	Q
ANT	<i>Paratrechina sp.</i>	12	Q
SCARAB BEETLE	<i>Phyllophaga sp.</i>	1	Q
LEAF SKELETONIZER	<i>Bucculatrix sp.</i>	1	Q
WHITEFLY	<i>Tetraleurodes sp.</i>	1	Q
HACKBERRY GALL PSYLLID	<i>Pachypsylla sp.</i>	1	Q
ARMYWORM	<i>Spodoptera sp.</i>	1	Q
LEAFROLLER	<i>Grapholita sp.</i>	1	Q
GRASSHOPPER	<i>Melanoplus sp.</i>	1	Q
CINCH BUG	<i>Blissus sp.</i>	1	Q
LEAFROLLER	<i>Platynota sp.</i>	2	Q

CUTWORM	Euxoa sp.	2	Q
LEAFROLLER	Acleris sp.	3	Q
TUSSOCK MOTH	Orgia sp.	2	Q
WEEVIL	Curculionidae	3	A
CLEARWING MOTH	Sesiidae	1	Q
MEALYBUG	Pseudococcidae	2	Q
LEAFROLLER	Tortricidae	4	Q
WOOLY BEAR	Arctiidae	26	Q
TENT CATERPILLAR	Tortricidae	7	Q
GELECHIIDAE	Gelechiidae	1	Q
GRAIN MOTH	Pyalidae	3	Q
WEEVIL	Curculionidae	4	Q
BAGWORM	Psychidae	8	Q
OWLET MOTH	Noctuidae	11	Q
LOOPER OR MEASURING WORM	Geometridae	1	Q
BUTTERFLY	Lepidoptera	1	Q
SCALE	Diaspididae	3	Q
GIANT SILKWORM MOTH	Saturniidae	1	Q
SHARPSHOOTER	Cicadellidae (nymph)	1	Q
FLY	Diptera (eggs)	1	Q
CUTWORM	Noctuidae	2	Q
UNKNOWN EGGS		1	Q
SNAIL	Unknown	1	Q
CALIFORNIA RED SCALE	Aonidiella aurantii	4	B
PURPLE SCALE	Lepidosaphes beckii	5	B
CHAFF SCALE	Parlatoria pergandii	8	B
GLOVER SCALE	Lepidosaphes gloverii	2	B
CRAZY ANT	Paratrechina longicornis	4	B
MEXICAN BEAN WEEVIL	Zabrotes subfasciatus	1	B
PYRIFORM SCALE	Protopulvinaria pyriformis	1	B
SNAIL	Bradybaena similaris	1	B